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REVIEW OF PROGRAMME PLANNING AND IMPLEMENTATION

(Item 5(b) of the provisional agenda)

**Development of the Cooperation Mechanisms for Nature Conservation in
Transboundary Areas in North-East Asia**

Note by the Secretariat

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ANNEX. Meeting report of the Review meeting on the NEASPEC Project, "Study on Transborder Movement of Amur Tigers and Leopards using Camera Trapping and Molecular Genetic Analysis"

I. BACKGROUND OVERVIEW

1. In accordance with the NEASPEC Nature Conservation Strategy adopted by the 12th Senior Officials Meeting (SOM) in 2007, NEASPEC during 2010-2012 had implemented the project “Establishing Coordination Mechanisms for Nature Conservation in Transboundary Areas in North-East Asia”, with the aim to strengthen bilateral and multilateral cooperation for nature conservation in transboundary areas in North-East Asia. Based on the outcomes from the project and a further situation analysis by the Secretariat with regard to the proposal of the Russian Federation at SOM-17 in 2012 to conduct a study on the transborder movement of Amur tigers and leopards, SOM-18 in November 2013 came to a conclusion to support the new project, “Study on Transborder Movement of Amur Tigers and Leopards using Camera Trapping and Molecular Genetic Analysis”.
2. The first Expert Group Meeting (EGM) which was held in April 2014 prepared the workplan including scientific approaches for the project activities, expected outcomes, implementing agencies and budgetary matters. SOM-19 in September 2014 supported outcomes of the EGM and emphasized the importance of having unified methodologies, technical standards, and the efficient use of limited financial resources under the Project. SOM-19 also noted that the isolated populations of Amur tiger and leopard in DPRK and in this regard, the Russian Federation urged all tiger range member States to be actively involved in NEASPEC’s work to ensure comprehensiveness.
3. With regard to cranes and Black-faced Spoonbills, another group of target species of the Nature Conservation Strategy, SOM-17 supported the project proposal on “Conservation and Rehabilitation of Habitats for Key Migratory Birds in North-East Asia”, and SOM-18 endorsed a detailed implementation plan prepared by the Expert Group Meeting (EGM) of the project held in October 2013. Subsequently, the Secretariat had worked with national focal points and project partners on developing the Scoping Survey and Joint Study Guidelines, and Site Information Sheet, prepared administrative arrangements with the focal points for grant disbursement, organized a field survey at the Rason Migratory Bird Reserve, DPRK, in March 2014 and held a side event at the 12th Conference of the Parties (COP-12) to the Convention on Biological Diversity (CBD) in October 2014.
4. SOM-18 took note of the progress and contribution of this Project to conserving transboundary habitats. SOM-18 also noted the suggestion for the Secretariat to actively facilitate the implementation of the joint survey at the Korean Demilitarized Zone (DMZ) under the project, and invite experts from all member countries to the survey.
5. While both projects were developed before the adaption of Sustainable Development Goals (SDGs) in September 2015, NEASPEC could explore ways of contributions to achieving the goals. In particular, the role of nature conservation as a critical factor in achieving

sustainable development has been reaffirmed through Goal 15, to “*protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss*”. More specifically, it includes targets such as:

- *By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements*
- *Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.*

6. As ecosystems and other sustainable development aspects are interlinked, achieving this particular SDG will also contribute to progression in other SDGs, and vice versa. In particular, nature conservation will also contribute to Goal 14 on the conservation and sustainable use of water resources.

II. CONSERVATION OF AMUR TIGER AND LEOPARD

7. *Implementation of the Project “Study on Transborder Movement of Amur Tigers and Leopards using Camera Trapping and Molecular Genetic Analysis”.* The Secretariat and national focal points - Feline Research Center of the State Forestry Administration of China (FRC-SFA) and WWF-Russia, have implemented a number of the project components including field study to capture camera images and collection of non-invasive samples of Amur tigers and leopards from December 2014.

8. The Project was designed to provide policy recommendations to establish or improve ecological corridor management and conservation plan on Amur tigers and leopards in the transboundary areas of the North-East Asia, which requires close communication and cooperation among participating countries. The Secretariat, thus, arranged a review meeting in Harbin on 15 September 2015 to discuss interim outcomes from field study and molecular genetic analysis, and to seek advice and recommendations from experts who have been involved in the work. The meeting report is attached as annex.

9. *Field study.* China and the Russian Federation, respectively, conducted the field study by installing camera traps and collecting non-invasive samples such as scat and hair. It was reported that the number of both species have increased from the previous studies, and the importance of transborder cooperation was reiterated as most images were captured near the Sino-Russian border.

10. *Molecular genetic analysis.* Samples collected from the field study were sent to the laboratory to extract DNA samples for further analysis. The analysis would identify gender, genetic diversity or family tree. DNA extraction was conducted by FRC-SFA and the Institute of

Biology and Soil Science FEB RAS (IBSS, Russia) respectively, and the interim outcomes are summarized in the Table 1. For more details, please refer to the review meeting report annexed to this document.

Overview of Camera Trapping and DNA Sampling

	China	Russian Federation
Camera trapping	<p>Location: Heilongjiang and Jilin Provinces</p> <p>Amur tigers: 358 photos or videos / 21 individuals with 3 families</p> <p>Amur leopards: 339 photos / 21 individuals</p>	<p>Location: Primorsky and Khabarovsk Provinces (Nov 2014-Feb 2015)</p> <p>Amur tigers (by snow tracking): 523-540 Amur tigers including 133-137 (M), 208-214 (F) and 98-100 (cubs)</p> <p>Amur leopards: 50 by snow tracking, and 57 by camera trapping</p>
DNA sampling	<p>From 154 faecal samples, 9 hair samples, 14 urine samples, and 9 blood samples in snow footprints</p>	<p>196 faecal samples (late Nov 2014-Mar 2015) from the Land of the Leopard National Park</p> <p>135 DNA samples including 57 Amur leopards, 49 Amur tigers and 29 unknown</p>

11. During the review meeting, experts agreed that camera trapping results will be analyzed by IBSS, Russia. Comparative analysis of camera trap data will be jointly undertaken by the FRC-SFA and the Land of the Leopard National Park (LLNP), with an agreement signed in December 2015. Two Chinese experts will visit LLNP in mid-January 2016 for the analysis.

12. According to the Project plan, DNA samples collected from the Russian territory were expected to be delivered to FRC-SFA by mid-2015. However, the delivery was not possible until the mid-December 2015, due to logistical complications of export and import of these biological materials, and translation issues of the required documents including the CITES certificate. Currently, FRC-SFA and a Russian expert are working on the molecular genetic analysis with both Chinese and Russian samples together.

13. *Final project report.* The Meeting also reviewed the draft table of contents of the final project report prepared by the Secretariat, and the revised the table of contents is attached under the Annex of this document. As agreed during the EGM, WWF-Russia will collect all outcomes of field study including the comparative analysis of camera trapping as well as molecular genetic analysis, and prepare the final report including policy recommendations on

transboundary ecological corridor, effective coordination/cooperation mechanisms, and roles of stakeholders in North-East Asia. Considering the new project timeframe, the final report is expected to be completed by mid-2016. Policy recommendations of the Report would be useful reference for formulating the next activities in Amur tigers and leopards conservation.

III. CONSERVATION OF MIGRATORY BIRD HABITATS

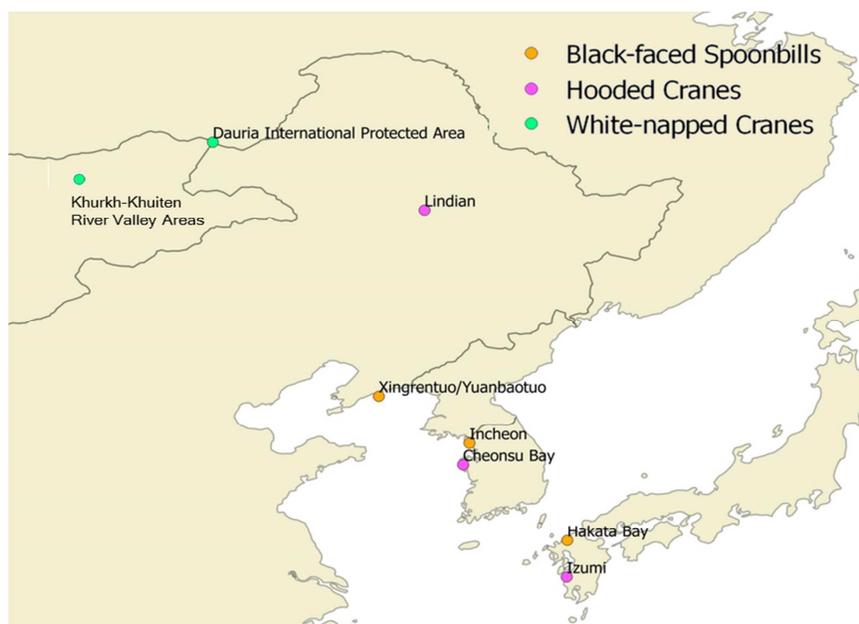
14. *Implementation of the Project “Conservation and rehabilitation of habitats for key migratory bird in North-East Asia”.* With approval from SOM-18 on the implementation of this Project, an Expert Group Meeting (EGM) was held in October 2013 to kick off the Project. Since then various activities have been implemented including the scoping surveys and joint studies.

15. The Project has the following eight scoping survey sites:

- Back-faced Spoonbills: (i) Xingrentuo/ Yuanbaotuo, Liaoning Province of China; (ii) Hakata Bay, Japan; and (iii) Incheon, ROK
- Hooded Cranes: (i) Lindian, China; (ii) Izumi, Japan; and (iii) Cheonsu Bay, ROK
- White-naped Cranes: (i) Dauria International Protected Areas (DIPA) at China, Mongolia and the Russian Federation; and (ii) Khurkh-Khuiten River Valley Areas of the Onon River Basin and general distribution range in eastern Mongolia

And two joint study sites:

- Korean Demilitarized Zone (DMZ)
- Dauria International Protected Areas (DIPA)



16. All scoping surveys have been completed in 2014 and 2015, except for the DIPA site. This is due to logistical complications at the border area of DIPA and delay in transfer of funds resulting from the name change of Russian national focal point (State Nature Biosphere Reserve “Daursky”) and the subsequent change in bank account. Considering the seasonality of White-naped Cranes that they are only present at DIPA in the summer, the scoping survey and joint study at DIPA will be postponed to summer 2016.

17. Building on the scoping survey, the International Workshop on “*Conservation and Rehabilitation of Habitats for Black-faced Spoonbills (Platalea minor) in North-East Asia*” was jointly held on 17 May 2015, in Ganghwa County, Republic of Korea. The Workshop gathered international agencies including WWF, EAAFP and NEASPEC Secretariat, alongside the Korean National Park Service and a number of NGOs, to share their latest works on conservation of migratory birds and their habitats. Furthermore, the Workshop was also participated by thirteen young scientists from China, Japan, ROK, Mongolia and Russia, who were participating the North-East Asian Young Conservation Leadership Programme (NEA-YCLP 2015). The NEA-YCLP was a five-day programme, held in conjunction with the survey and the Workshop, to enable young scientists and experienced conservationists to conduct field work together and share their skills and experiences. The Programme has connected young scientists from the five countries and set path for collaboration among researchers at an early-stage of their career.

18. To help raise local awareness in migratory bird conservation at the survey sites, the International Black-faced Spoonbill School also took place during the visits of international experts and organizations for the above-mentioned workshop. International experts and local teachers, together trained local primary school and high school students through introducing Black-faced Spoonbills, their habitats and international conservation efforts, combined with field visits and bird watching.

19. The joint study at the DMZ took place from 30 January to 4 February 2015. It was participated by the Project national focal points from China, Japan, Mongolia, ROK and the Russian Federation, together with participants from Korean National Park Service, National Institute of Biological Resources, Beijing Forest University and the civil society including the International Crane Foundation, Birdlife International and the Hanns Seidel Foundation (HSS). Participants identified a number of key issues during the joint study, including agricultural policy and land use planning; environmental education and waste management; tourist management; and conservation of wider ecosystem services. A number of recommendations were also discussed, such as sharing findings of the study with locals through exhibitions and publications; and future research on bird populations, mapping, and tourism capacity to facilitate decision-making.

20. The Workshop “*Crane and Korean DMZ, Symbol of Eco-peace: Nature Conservation of Key Habitats for Migratory Birds in Transboundary Areas*” was held during the joint study on 2 February 2015 at Cheorwon, Republic of Korea. In addition to the joint study participants, the Workshop gathered a large crowd of local people from local authorities and communities sharing strong interest on habitat conservation for migratory birds. The Workshop showcased conservation efforts across North-East Asia with specific focus on challenges in transboundary habitats including the DMZ area.

21. Currently, national focal points are in preparation of reports for the surveys and study, to be compiled in an interim report of the Project by the Korean Society of Environment and Ecology. The final report will be prepared after the DIPA Joint Study takes place in summer 2016.

22. ***Supporting the conservation of migratory birds habitats in DPRK.*** Since the field survey organized by NEASPEC Secretariat and Hanns Seidel Foundation took place at the Rason Migratory Bird Reserve in 2014, the Secretariat has been in touch with various partners to explore follow-up options and opportunities. The Ramsar Convention Secretariat, Hanns Seidel Foundation, IUCN and WWF held a ‘National Workshop on Wetlands’ in Pyongyang, DPRK in October 2015, to present international works on wetlands and discuss with the National Coordinating Committee for Environment (NCCE) and the Ministry of Land and Environment Protection (MoLEP) on potential joint projects from 2016 to 2018. A number of possible joint projects were suggested, mostly in line with the recommendations from the Rason survey, including the improvement of wetland management; support of DPRK to become signatory to the Ramsar convention; update of national wetland inventory; development of the National Wetland Action Plan and awareness raising.

23. Not only subregional cooperation and support can contribute to the above-mentioned proposals, it will also substantially expand the scope and generate greater benefits if North-East Asian countries are involved and provide support such as through NEASPEC. Building capacity and generating knowledge in DPRK will be of great importance in filling knowledge gaps of habitats in the subregion, and a key step to initiate and promote international cooperation. Most importantly, it will provide basis for strengthening cooperation in transboundary habitat conservation especially among China (Fangchuan National Park), DPRK (Rason Migratory Bird Reserve) and the Russian Federation (Khasanskii Nature Park). As recommended in the Rason survey report¹, the three countries could designate the existing national protected areas as Ramsar Sites and work towards creating a transboundary Ramsar site, which will be Asia’s first transboundary Ramsar site and provide a solid platform for further transboundary cooperation.

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http://www.neaspec.org/sites/default/files/Rason%20migratory%20bird%20reserve_birds%20and%20habitats.pdf

IV. ISSUES FOR CONSIDERATION

24. [Conservation of tigers and leopards] The Meeting may wish to request member States to provide their views on the interim project outcomes and the Table of Contents of the project report, and invite member States to express interests in hosting an international workshop during the second-half of 2016 with the launch of the final project report.
25. [Conservation of migratory bird habitats] The Meeting may wish to request member States to provide their views on the project and also interests in supporting proposed activities on DPRK habitat conservation.
26. The Meeting may wish to invite member States to indicate their intended contributions to this programme of work.

[Annex]



Meeting Report of the Review Meeting on the NEASPEC Project, “Study on Transborder Movement of Amur Tigers and Leopards using Camera Trapping and Molecular Genetic Analysis”

15 September 2015, Harbin, China

1. The NEASPEC Secretariat organized the Review Meeting of the Project, “Study on transborder movement of Amur tigers and leopards using camera trapping and molecular genetic analysis” on 15 September 2015 in Harbin, China. The Meeting brought together experts involved in/relevant to the Project, from China, Republic of Korea and the Russian Federation to review the interim outcomes of the field study and molecular genetic analysis, as well as to seek advice and recommendations for the final project report.
2. **[Field study]** China has installed camera traps in Heilongjiang and Jilin Provinces, with density of 1 camera trap in every 10 km² and 2 cameras in each trap. For Amur tigers, 358 photos or videos were recorded and 21 individuals with 3 families were identified; and 339 photos of Amur leopard were captured with 21 individuals identified through their side patterns to-date since 2012. Most images were captured near the Sino-Russian border, providing strong evidence to strengthen international cooperation for conservation of the concerned cat species.
3. The Russian Federation also conducted field study on Amur tigers and leopards in Primorsky and Khabarovsk Provinces. By snow tracking conducted during November 2014 to February 2015, 523-540 Amur tigers were identified including 133-137 males, 208-214 females and 98-100 cubs. According to a full range census which takes place every 10 years in Russia, the number of Amur tigers has increased from 417-476 in 1996 and 428-502 in 2005. The number of Amur leopards has also increased from 28 in 1972 to 47 in 2013 and 50 in 2015 by snow tracking, as well as 49 in 2013 to 57 in 2015 by camera trapping. Russian experts reiterated the importance of international cooperation in transborder areas, highlighting that more than 600 camera traps were installed near the Sino-Russian border (inside the border fence) and photos from both Russia and China should be compared for accurate information on census and behavior of the two species. The Russian Federation will conduct the next full-range Amur tiger census this coming winter.
4. **[Molecular genetic analysis]** While conducting the field survey, researchers collected non-invasive samples (e.g. feces, hair, blood, etc.) of Amur tigers and leopards in the wild, and extracted DNA from those samples for further analysis such as individual identification, gender determination, health condition, genetic diversity, and a family tree.

5. China identified at least 24 Amur tigers and 21 Amur leopards in the wild with a high genetic diversity from non-invasive samples collected since 2010. Chinese experts will conduct molecular genetic analysis for the samples collected since late 2014 in due course, and report the outcome to the NEASPEC Secretariat for the final project report.
6. Russian experts extracted DNA of Amur tigers and leopards from 196 fecal samples collected from late November 2014 to the end of March 2015 in the Land of the Leopard National Park, and processed every sample three times for the best result. Thus 135 DNA samples were extracted, including 57 Amur leopards, 49 Amur tigers and 29 unknown. DNA extracts will be delivered to China (Feline Research Center of Chinese State Forestry Administration, College of Wildlife Resources of Northeast Forestry University) for further analysis once the required documentation is completed.
7. The Republic of Korea reported its scientific progress on molecular genetic analysis. The new methodology, which is under development, aims to improve accuracy in identifying concerned species and their individuals by using non-invasive samples from the field. It is also expected to increase cost- and time-effectiveness by reducing current two-step procedure to single-step procedure. As non-invasive samples collected from China and the Russian Federation are required for further development, the Meeting thus recommended Sino-ROK and Russia-ROK cooperation.
8. **[Other matters]** The Meeting agreed that camera trapping results will be analyzed by the Russian Federation and molecular genetic analysis will be conducted by China. Chinese experts will visit the Russian Federation in due course with captured images from the Chinese side for comparative analysis; and bring Russian DNA samples to China for further analysis. It is expected to take approximately three months to complete molecular genetic analysis after receiving Russian samples.
9. **[Final project report]** The Meeting reviewed the draft Table of Contents (ToC) of the final project report prepared by the Secretariat, and the revised ToC is attached in Annex I. The final project report will be prepared by WWF-Russia according to the Expert Group Meeting decision in April 2014, and is expected to be published in early 2016.

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Study on Transborder Movement of Amur Tigers and Leopards using Camera Trapping and Molecular Genetic Analysis

Table of Contents (revised draft)

1. Introduction

2. Overview of conservation initiatives on Amur tiger and Amur leopard in NEA

- National level
- Local level
- Intergovernmental level

3. Study on transborder movement

- ✓ Timeframe: late 2014~ (within the agreed timeframe, i.e. NEASPEC project)
- ✓ Need further discussion on to what extent the partner institutions will share information and the final report will disclose the information

- Introduction
- Field study
 - Camera trapping
 - This part will be prepared by Russia.
 - Chinese experts will visit the LLNP to share their outcomes and it will take up to 3 days to complete the comparative study.
 - This part will contain the methodology, the minimum number of individuals, gender, and photo of each individual with general locations or GIS information (if required).
 - This part will also provide maps to show species distribution and their transborder movement in China and the Russian Federation. The maps should use the same scale.
 - Sample collection
 - Maps to present general locations of sample collection
- Molecular genetic analysis
 - DNA extraction
 - DNA analysis
 - This part will be prepared by China.
 - This part will also contain the methodology, the minimum number of individuals, gender, family tree, genetic diversity and maps with the same scale, but not limited to.
- Outcomes
 - Comparative study to identify individuals crossing the border

4. Recommendations

- Policy recommendation
 - Transboundary ecological corridor
 - to establish new ecological corridor and/or to improve existing ecological corridor management and conservation plan in the transboundary areas
 - to seek possibility to remove military fences in the Sino-Russian border
 - to connect unequal distribution of Amur tiger and leopard
 - Effective coordination and cooperation
 - to designate one coordinator or focal point each country (one for Amur tiger and one for Amur leopard; or one for both species) as it is effective to facilitate interagency cooperation within/beyond the country
 - Integrated and standardized methodology for monitoring the concerned species
 - to develop an integrated scientific research mechanism on camera trapping, sample collection and genetic molecular analysis (e.g. a standardized genetic marker system suitable for non-invasive samples from the field)
 - Effective cooperation mechanism in NEA
 - to establish sustainable joint project among multiple stakeholders under NEASPEC (e.g. an expert group network)
 - to seek possibility to work with DPRK
- Role of stakeholders
 - Government
 - Local Government
 - Academics
 - Civil Society
 - International organizations

5. Conclusions